

Claims

1. A shear-card voting device having a housing, a die plate with a flat area, a machine-processable record card having a plurality of index-points that are (a) in the region of said card that rests on said flat area and (b) are unscored, a cutter guide plate, a hand-positioned cutter assembly that includes a cutter, and an electric light source mounted below the plane of said flat area in a position to direct a light beam upward through each aperture made in said card by said cutter.
2. A shear-card voting device having a housing, a die plate with a flat area, a machine-processable record card having a plurality of index-points that are (a) in the region of said card that rests on said flat area and (b) are unscored, a cutter guide plate, a hand-positioned cutter assembly that includes a cutter, and an electric light source mounted below the plane of said flat area in a position to direct a light beam upward through each aperture made in said card by said cutter. said beam having a cross-sectional area at least as large as the area of said aperture.
3. A shear-card voting device having a housing, a die plate with a flat area, a machine-processable record card having a plurality of index-points that are (a) in the region of said card that rests on said flat area and (b) are unscored, a cutter guide plate, a hand-positioned cutter assembly that includes a cutter, and an electric light source mounted below the plane of said flat area in a position to direct a light beam upward through each aperture made in said card by said cutter. said device also having a mask that prevents the voter from cutting any aperture in said card at any index point that does not represent an allowable choice for the voter. said mask having a dark top surface that enhances the feedback from said beam.
4. A shear-card voting device having a housing, a die plate with a flat area, a machine-processable record card having a plurality of index-points that are (a) in the region of said card that rests on said flat area and (b) are unscored, a cutter guide plate, a hand-positioned cutter assembly that includes a cutter, and an electric light source mounted below the plane of said flat area in a position to direct a light beam upward through each aperture made in said card by said cutter. and said device also includes a means to constrain said cutter to move against said area substantially at right angles thereto.
5. A shear-card voting device according to claims 1, 2, 3, or 4 wherein said cutter is round and has a negative taper.
6. A shear-card voting device according to claims 1, 2, 3 or 4 wherein a Harris ballot book is mounted above said cutter guide plate.

7. A shear-card voting device according to claims 1, 2, 3, or 4 wherein said die plate and said cutter guide plate are doweled together as a subassembly on opposite sides of a slot containing said record card.
8. A shear-card voting device according to claims 1, 2, 3, or 4 wherein a limit switch is mounted adjacent to the slot containing said record card and is connected in series with said electric light source.
9. A shear-card voting device according to claim 6 wherein said Harris ballot book that when open to the last two pages has votable items on the left page and an admonition to the voter to leaf through all pages of said book to verify that all votes are correct, complete and not overvoted.
10. A shear-card voting device according to claims 1, 2, 3 or 4 wherein said cutter is a subassembly that includes the reverse taper cutting tip, a transparent disk at least 15 mm in diameter, and a handle.
11. A shear-card voting device according to claims 1, 2, 3 or 4 wherein said housing is made of translucent colored plastic.
12. A shear-card voting device according to claims 1, 2, 3 or 4 wherein said cutter guide plate is made of plastic.
13. A shear-card voting device according to claims 1, 2, 3 or 4 wherein said cutter assembly is mounted on a kinematic linkage that constrains it to remaining perpendicular to said flat area at all times.
14. A shear-card voting device according to claims 1, 2, 3, or 4 wherein means are provided to restrict the downward movement of said cutter assembly to less than 3 mm after it first touches the surface of said record card.
15. A shear-card voting device according to claims 1, 2, 3, or 4 wherein said cutter on the one hand, and said die plate and said cutter die on the other, are made of non-galling metals.
16. A shear-card voting device according to claims 1, 2, 3, or 4 wherein said light source has at least two illuminators that straddle the region where cutouts from said record-card fall by gravity, and one of said illuminators is a mirror.
17. A shear-card voting device according to claim 5 wherein said negative taper has a circular profile with a radius equal to the diameter of said cutter tip and a center at the opposite end of said diameter.
18. A shear-card voting device according to claim 13 wherein one of the links of said kinematic linkage has X- bracing.